



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,949	08/27/2003	Raymond H. Thomas	H0003828	4074

128 7590 12/19/2005

HONEYWELL INTERNATIONAL INC.
101 COLUMBIA ROAD
P O BOX 2245
MORRISTOWN, NJ 07962-2245

EXAMINER

COSTALES, SHRUTI S

ART UNIT	PAPER NUMBER
----------	--------------

1714

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,949

Applicant(s)

THOMAS ET AL.

Examiner

Shruti S. Costales

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/17/03 & 4/26/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements submitted on October 17, 2003 and April 26, 2004 were filed in compliance with the provisions of 37 CFR § 1.97. Accordingly, the information disclosure statements filed by the applicant have been considered by the Examiner. However, it is to be noted that the applicant cited two U.S. Patents on the information disclosure statement submitted on April 26, 2004 that were already cited on the information disclosure statement submitted on October 17, 2003. Therefore, these duplicate U.S. Patents, namely, U.S. Patent Number 5,352,378 and U.S. Patent Number 6,358,893 have been considered once as originally cited on the information disclosure statement submitted on October 17, 2003.

Specification

2. The abstract of the disclosure is objected to because the applicant makes improper use of legal phraseology, such as "comprising". See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The

Art Unit: 1714

disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "A coating composition having polysiloxane and a hydrofluorocarbon".

Claim Objections

4. Claim 1 is objected to because an "and" is missing after "a silicone coating agent...or combinations thereof;" to indicate that the "solvent-emulsifier" is the last element of said claim 1.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 2-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(i) More particularly, claims 2-22 recite “The coating composition” referring back to one of the preceding claims, wherein there is insufficient antecedent basis for the “coating composition”. It is to be noted that claim 1, from which claims 2-22 directly or indirectly depend, recites a “composition” and not a coating composition.

(ii) Further, claim 5 appears to improperly recite a Markush group. Consequently, it is impossible to determine which elements of the group are required by the claim. When materials recited in a claim are so related as to constitute a proper Markush group, they may be recited in the conventional manner, or alternatively. For example, if “wherein R is a material selected from the group consisting of A, B, C and D” is a proper limitation, then “wherein R is A, B, C or D” shall also be considered proper (emphasis added). See MPEP § 2173.05(h).

Moreover, with respect to claim 5, said claim contains the trademarks/trade names “HFC-245fa”, “HFC-365mfc”, “HFE-7100”, and “HFE-7200”. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The

claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademarks/trade names are used to identify/describe specific hydrofluorocarbons and, accordingly, the identification/description is indefinite.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

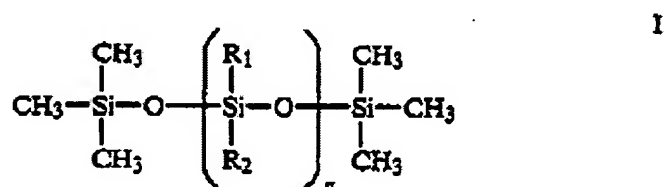
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-19, 22, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Mathisen et al. (U.S. Patent Number 5,352,378), which was cited by the applicant on the PTO-1449 submitted on October 17, 2003.

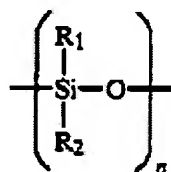
Mathisen discloses lubricious coating compositions and methods of using said compositions (Col. 1, lines 5-6). The composition includes a nonflammable highly fluorinated organic compound and a silicone lubricant (Col. 1, lines 44-67 and Col. 2, lines 1-5). The nonflammable highly fluorinated organic compound is an HFC of the general formula $C_aH_bF_cO_d$, wherein $a = 2$ to 8, $b = 1$ to 17, $c = 1$ to 17, $d = 0$ to 4 (Col. 2, lines 9-35). It is to be noted that Mathisen's general formula for HFCs inherently includes the presently claimed HFC species. Moreover, the presently claimed HFC

Art Unit: 1714

species include trade names HFC-245fa, HFC-365mfc, HFE-7100, and HFE-7200 that correspond to 1,1,1,3,3-pentafluoropropane, 1,1,1,3,3-pentafluorobutane, methyl nonafluoroisobutyl ether, and ethyl nonafluoro(iso)butyl ether, respectively, wherein of these species is a derivative of Mathisen's HFC general formula discussed above. The silicone lubricant includes polydialkylsiloxanes shown in formula (I) below:



wherein R¹ and R² may be independently an alkyl group of from 1 to 20 carbon atoms, and wherein it is preferred that R¹ is methyl (Col. 3, lines 7-44). It is to be noted that the repeat unit shown below derived formula (I) corresponds to the polysiloxane repeat unit presently claimed:



The viscosity of the polysiloxane is from about 20 to 1,000,000 centistokes (Col. 3, lines 22-23). Further, the lubricant composition includes composition comprises from 10% to 50% by volume of the highly fluorinated organic compound, from 50% to 80% by volume of the fluorine-free solvent, and from 1% to 30% by volume of the silicone lubricant (Col. 3, lines 40-44), wherein although the amounts disclosed by Mathisen are in vol%, the ranges of the amounts disclosed are broad enough to inherently

Art Unit: 1714

encompass the presently claimed amounts in wt%. A method of coating a substrate is further disclosed wherein the disclosed composition is brushed or sprayed as an aerosol onto the substrate or the coating composition may be applied onto the substrate by immersion (Col. 3, lines 57-66).

In light of the above discussion, it is clear that the presently cited claims are anticipated.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

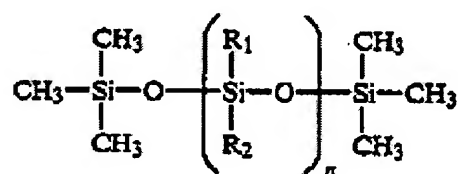
This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

Art Unit: 1714

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathisen et al. (U.S. Patent Number 5,352,378), which was cited by the applicant on the PTO-1449 submitted on October 17, 2003, in view of Anderson et al. (U.S. Patent Number 6,387,519).

Mathisen discloses lubricious coating compositions and methods of using said compositions (Col. 1, lines 5-6). The composition includes a nonflammable highly fluorinated organic compound and a silicone lubricant (Col. 1, lines 44-67 and Col. 2, lines 1-5). The nonflammable highly fluorinated organic compound is an HFC of the general formula $C_aH_bF_cO_d$, wherein $a = 2$ to 8 , $b = 1$ to 17 , $c = 1$ to 17 , $d = 0$ to 4 (Col. 2, lines 9-35). It is to be noted that Mathisen's general formula for HFCs intrinsically includes the presently claimed HFC species. The silicone lubricant includes polydialkylsiloxanes shown in formula (I) below:



I

Art Unit: 1714

wherein R¹ and R² may be independently an alkyl group of from 1 to 20 carbon atoms, and wherein it is preferred that R¹ is methyl (Col. 3, lines 7-44). The viscosity of the polysiloxane is from about 20 to 1,000,000 centistokes (Col. 3, lines 22-23). Further, the lubricant composition includes composition comprises from 10% to 50% by volume of the highly fluorinated organic compound, from 50% to 80% by volume of the fluorine-free solvent, and from 1% to 30% by volume of the silicone lubricant (Col. 3, lines 40-44), wherein although the amounts disclosed by Mathisen are in vol%, the ranges of the amounts disclosed are broad enough to intrinsically encompass the presently claimed amounts in wt%. A method of coating a substrate is further disclosed wherein the disclosed composition is brushed or sprayed as an aerosol onto the substrate or the coating composition may be applied onto the substrate by immersion (Col. 3, lines 57-66).

The difference between Mathisen and the presently claimed invention is the requirement that the composition also includes a specified surfactant.

Anderson, which is drawn to cured compositions formed from polysiloxanes and substrates coated with the cured compositions (Col. 1, lines 17-38), discloses ethoxylated surface active agents (Col. 17, lines 65-67 and Col. 18, lines 1-11). It would have been obvious to one of ordinary skill in the art to use Anderson's ethoxylate surface active agent in the composition of Mathisen because the surface energy of such a coating is lower (Col. 16, lines 12-19) therein intrinsically providing a coating composition that is water-repellant and has "non-stick" characteristics, thereby obtaining the invention as set forth in the presently cited claims.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shruti S. Costales whose telephone number is (571) 272-8389. The examiner can normally be reached on Monday - Friday, 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

SSC
Shruti S. Costales
December 9, 2005

Vasu Jagannathan
VASU JAGANNATHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700